

VIRGINIA WILDLIFE

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MARCH, 1958



Ed Bierly

COMMONWEALTH OF VIRGINIA
GOVERNOR'S OFFICE
RICHMOND

J. LINDSAY ALMOND, JR.
GOVERNOR

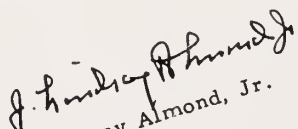
WILDLIFE WEEK IN VIRGINIA

The progress of every state and nation is largely dependent upon the character of its people and the abundance and quality of its natural resources.

In this day of unrest and scientific achievement, it is well for liberty-loving peoples everywhere to safeguard their natural heritage of productive soil, pure water, wild plants and animals. When a country's physical base is weakened, the moral fiber of its people is weakened and they become less capable of defending their freedom and their way of life.

Today conservation needs tend to be overshadowed by the great promises of science. Yet man needs his natural environment and needs to obey natural laws more than ever before. With population pressures growing more intense each year, with living space and food problems looming more important each day, it behooves us to heed the words of Patrick Henry, who said: "He is the greatest patriot who stops the most gullies".

Each year in March public attention is directed to the importance of one of our valuable natural resources -- wildlife. This year the theme of National Wildlife Week, March 16-22, is "Protect Our Public Lands". As Governor of Virginia, I urge the citizens of the Commonwealth to acquaint themselves with the problems of wildlife conservation and with natural resources management generally, and to devote special support to programs affecting the protection and wise use of our public lands. Only through public support of sound conservation programs can the natural resources of our state--and nation--be perpetuated for ourselves and for those who follow in our footsteps.


J. Lindsay Almond, Jr.
Governor



VIRGINIA WILDLIFE

Published by VIRGINIA COMMISSION OF GAME AND INLAND FISHERIES, Richmond 13, Virginia
A Monthly Magazine Dedicated to the Conservation, Restoration, and Wise Use of Virginia's Wildlife and Related Natural Resources, and to the Betterment of Hunting, Fishing and Outdoor Recreation in Virginia

COMMONWEALTH OF VIRGINIA



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Cover

The baldpate (*Mareca americana*) is commonly referred to by most hunters as the widgeon. Ed Bierly's four-color painting brings out the delicate tones which make the baldpate a most attractive duck.

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The Term "Wise Use" Needs Broadening

IN a recent editorial, entitled "Waste Beyond Measure," a Cheyenne newspaper asked some questions which perhaps we, and almost certainly our children, will have to answer sooner or later:

"Do we have so much that we can waste so recklessly?

"The thought occurred to us after visiting, of all places, the Cheyenne municipal dump . . . You ought to see the stuff that gets covered up, apparently to be lost forever.

"Fence posts—including four by four's—wiring, lumber, firewood, toys, fencing, packing, cardboard, gears, fabricated metal and sheeting of all sizes and descriptions . . .

"How much longer can we, as a nation and in virtually all facets of the American way of life, continue to make, use and waste so casually?"

Writing along the same lines, Ernest Swift, executive director of the National Wildlife Federation, recently made some rather pointed statements:

"Today it is popular to express the opinion that conservation should not be a philosophy that keeps resources locked up, that idea being mouldy and outdated; but that today's progressive view means strict adherence to the 'wise use' of every part and parcel, spice and element of nature's bounty.

"Just what did the first person to express this thought have in mind? Did he mean technological efficiency in the conversion of raw materials, or use after conversion?"

Swift then points out that we have made, and are still making, great strides in the conversion process and asks:

"But I raise the question, what uses are made of the lumber, paper, plastics or other products after they leave the mill?

"The plain truth of the matter is that the American economic system is not based on wise use or the conservation of natural resources. It is based on consumption.

"It is not wise use to curtail the use of steel for whatever use it may be put, but it IS wise use to run a car a couple of years and then park it in a junk mortuary.

"It is not wise use to regulate the domestic or industrial use of water but it IS wise to dam all the free-running rivers so people individually or collectively can waste it in any manner they see fit.

"It is not wise use to deny water for irrigation, but it IS wise use to raise crops by irrigation and then destroy the crops to control the price.

"It is not wise use to place restrictions on the use of the land, but it IS wise use to let a landowner burn his forest, let his soil erode and to destroy the tax base.

"Conservation leaders have got to broaden the base of the term, 'Wise Use,' to include the consumer. The consumer means the public who, in the long run, will suffer most when the rationing of resources becomes necessary."



DIRECTOR TO RETIRE

I. T. Quinn, executive director of the Virginia Commission of Game and Inland Fisheries for the past 12 years, has announced that he will retire effective June 30, 1958.

"I. T.," as he is known to his many friends throughout Virginia, was born in Alabama and received his basic education at the Sixth District Agricultural School in Hamilton. He graduated with a degree in science from Alabama Polytechnic Institute, Auburn, in 1913.

Upon graduation from API, Quinn worked for two years as a high school principal and then entered the service of the U. S. Department of Agriculture. In 1924 he was appointed to the directorship of the Commission of Conservation of Game, Fish and Seafood of Alabama and worked in that capacity for 17 years.

At the outbreak of World War II, Quinn was called to Washington to perform conservation work.

In 1946 he was offered his present position as executive director of the Virginia Commission of Game and Inland Fisheries and accepted the challenge. He met this challenge squarely and his services to Virginia have been outstanding. To the many sportsmen in the Old Dominion, Quinn will be remembered for the earnest work he has done to perpetuate hunting and fishing. During his tenure the Commission has progressed a long way and now acts chiefly on the findings of scientific research to better manage game and fish for the sportsmen.

While director in Alabama and Virginia, Quinn has served as president of the International Association of Game, Fish and Conservation Commissioners, president of the American Fisheries Society, president of both the Southern and Southeastern Association of Game and Fish Commissioners, southern representative on the Migratory Bird Treaty Act Advisory Board for 14 years, chairman for six years of the National Committee on Wildlife Legislation and assisted in steering the Pittman-Robertson Bill through Congress.

During his career Quinn has written a great number of articles dealing with various phases of conservation. These writings have appeared in newspapers, periodicals, various magazines, and *Virginia Wildlife*.

Upon retiring in June of this year, "I. T." hopes to spend a great amount of his time in the fields and streams of the Old Dominion. In this way he will, in his words, "begin reaping some of the things I have sown over more than a third of a century."

Whose Land Is It?

By FREDERICK BROWN HARRIS*

A sermon for VIRGINIA WILDLIFE WEEK in conjunction with

NATIONAL WILDLIFE WEEK, March 16-22.

"And messengers came to David saying, 'Whose is the land?'"

—II SAMUEL 3:12

HERE is a question mark lifted above what to the Israelites was the Promised Land. Certain contentions with regard to the possession of the land had been raised. Out of those old unhappy far-off days comes echoing down the crowded centuries the query, whose land is it? Into that ancient controversy we need not go. Suffice it to say that in the argument which grew out of this question the quarreling parties forgot that the chief stake in the land was God's. We pause to say that the very territory glimpsed in the interrogation of the text in this convulsive era of mid-twentieth century is rent with bitter strife. Much of the present explosive situation in what we call the troubled Middle East grows out of the implications of this very question, whose land is it? Who really has a right to it?

However, it is ours in this meditation simply to take this question asked of King David and lift it high above the plains and mountains and rivers of this vast promised land called America. Whose land it is? Katherine Lee Bates, in inspiring verses, has succeeded in bringing to those who dwell in that land a moving sense of its opulent splendor and majesty, of its past history and present challenge, in "America the Beautiful." In her soaring lines, as from a speeding airplane, we seem to be passing in awe and admiration above the varied domain from sea to shining sea in such scenic-freighted phrases as "amber waves of grain," and "purple mountain majesties above the fruited plain." No wonder that that stirring hymn is the musical background of the aerial inspection of our America as depicted in the visual miracle of Cinerama. Thinking just of the glorious topography of the land as beheld in such a flight, let us ask, whose land is it? No wonder in this anniversary year of its writing there was staged in the New England church where it was originally rendered a special ceremony featuring the Rev.

Samuel Smith's hymn "My Country, 'Tis of Thee." In connection with the anniversary the verses were gratefully caroled in every State of the Union. In that familiar paean of thanksgiving for all that America at its best means there is graphically glimpsed the physical land over which the fearless eagle, emblem of America's destiny, flies and on whose towering crags it boldly rests in its kingship of the skies. "I love Thy rocks and rills—Thy woods and templed hills." Of course, since these words were penned, as the years have unfolded in the winning of the West, to the quiet sylvan depiction of a New England landscape was to be added "the fruited plains and the purple mountain majesties" of the Rockies as westward the course of empire took its way.

As in this Year of Our Lord we contemplate the glorious sweep of the America of which we sing, throned in might and beauty between the oceans, from the Atlantic to the Pacific and from Canada to the Gulf, and raise the question, whose land is it?, surely the place to begin in any adequate reply is at the climax of the hymn to which we have just referred and at the verse which is weekly lifted like sweet incense at the altar of many a place of worship, "Our Fathers' God to Thee—Author of Liberty—To Thee we sing." Then comes the prayer on millions of lips, "Long may our land be bright, with Freedom's Holy light, Protect us by Thy might, Great God, Our King." We are reminded that the chief fact regarding this privileged land is that

IT BELONGS TO GOD.

You simply cannot explain and interpret America without God. Not only America as an idea, but her very land is God's. Of course, there is a real sense in which that can be said of all lands. "The earth is the Lord's and all that is therein. Oh, Lord, how manifold are Thy works. The earth is full of Thy riches." But who,

*Dr. Harris is chaplain of the United States Senate.

with his eyes on history, can doubt that it is the purpose of the Author of Liberty for all mankind that human freedom shall be preserved and nourished in this fair land so that when it was imperiled everywhere else all nations of the earth should be blessed through America's example and strength. This is what makes it a Promised Land. This is our manifold destiny. It is because of that sobering commission that malignant forces which plot world domination have marked the United States as their most hated foe. It is this awful responsibility of ability to save the race from degrading serfdom which makes us God's chosen people. That distinction lifts America to no pedestal of lordship over others. There was a period in her adolescence when the vital issues were not sharply focused as they are today, that at least some Americans interpreted our mission in terms of egotism. In that boastful period someone from abroad suggested that it was difficult to get a good picture of the United States because so many halos blocked the camera's lens. Now in this time of her greatest power and with an awesome sense of her world mission, a burden which she would gladly escape if she could, increasing millions of her most loyal sons and daughters sing with a sincerity in which lurks no inflated hypocrisy, "America, America, God mend thine every flaw." Those who pray most fervently for God to mend her flaws and failures remember vividly her beginnings. Those intrepid pioneers who landed on the wild New England coast sounded the keynote of their adventure as they stepped upon the shore of the new land—"In the name of God, Amen."

As President Eisenhower has declared more than once, America just doesn't make sense without religion. She holds in her hand a divine invitation to the Universal Father's hurt and wounded children everywhere. How eloquently that is phrased on the Statue of Liberty close by the Golden Door, "Give me your tired, your poor, your huddled masses yearning to be free." Often, in a burst of patriotic fervor have we heard the expression, when some vista of surpassing loveliness has stretched out from a lofty inspiration point, "This is God's country." That is true in a profounder sense than just the signature of beauty across a smiling landscape. Whether on this embattled globe there shall be another crucifixion of Christian truth as it climbs a new Calvary—Whether in coming days there shall be darkness over the face of the earth from the Sixth Hour until the Ninth (and that may be a thousand years) depends largely on whether God can count on America with her material and moral power to say, at whatever cost, to rampant forces of darkness bent on enslaving the world, "You shall not pass." Today, with our free world allies unequal to the crisis without America's might, we stand at Armageddon and we battle for the Lord. With all her shortcomings, America has literally come to the Kingdom for such a time as this. In this great hour may she fail not man nor God. So, first of all, this land, as the arsenal of human dignity, belongs to the God of all the earth Who in history's unfolding kept it for his beneficent purpose. Dr. William P. Merrill, who for so long made his New York

pulpit a throne of power, wrote one of the great hymns of this century. In it rings the refrain, "Give We thanks to Thee, oh, God." In the first stanza he answers the question, Whose land is it?

"Not alone for mighty empire
Stretching far o'er land and sea,
Not alone for bounteous harvests
Lift we up our hearts to Thee.
Standing in the living present
Memory and hope between
Lord, we would with deep thanksgiving
Praise Thee most for things unseen."

Whose land is it? It belongs to God, Who only is our help and hope. And so, as the servants of the Divine Purpose, pledging our all to the Author of Liberty, the next thing to remember regarding this land of hope and glory is that

IT BELONGS TO US.

It belongs to us as trustees who temporarily possess it, who walk its soil, who cross its plains, who climb its mountains, who sail its lakes and rivers, who explore its wilderness. We who have inherited it from those who kneeled around the cradle of the State must regard it as holy ground, whose beauty is to be revered, whose forests are to be guarded, whose soil is to be preserved, whose rivers are to be unpolluted, whose primitive wildernesses are to be unspoiled, and whose wildlife is to be protected. The unpardonable sin is to sacrifice our patrimony on the altar of commercialism which cares for nothing but greedy personal aggrandizement. Alas, that already disregard for what happens to the land has wrought tragic irreparable havoc. Wanton disregard of the people's rights in forests and rivers and mountain majesties has brought its tragic harvest in dustbowls, land erosion, privately channelled water power, desecrated park areas, and poisoned rivers. What we call our civilization, if uncurbed, will prove a creeping blight whose symbol is the bulldozer. Big trees must go down before big business. Crystal rivers must be contaminated with disgusting waste rather than to pay the cost for sewage disposal. Public lands must be exploited by devious undercover schemes for private gain. Get-rich promoters with predatory feet go forth to despoil the sanctuaries of the wilderness. Men who loudly advocate arming against foreign foes, for dollars become vandals of the very land of which they hypocritically sing, "I love Thy rocks and rills, Thy woods and templed hills." Whose land are they defiling? Yours and mine.

Every American has fabulous possessions. Literally, this is a land where every man is a king. Do you realize that your real estate holdings are enormous? Do you know that as an average American you own an undivided interest in the public lands of the United States equal to nearly three acres? That is the equivalent of a dozen generous sized suburban lots. In addition to that, you have valuable property in state and county lands. As an American you are part owner of 460 million acres of federal land. Your part of the United States held for

your interests is more than twice as large as Texas, or four times as large as California. The managers who administer the vast interest of all these grazing, scenic and forest areas are your employees. They guard your interests. They harvest your timber and other products on and under the soil. It is estimated that 25 million of these individual owners went to personally inspect their holdings in 1956 in the national parks, the national forests and in the wildlife refuges. These American land-owners by the millions are now, as never before, being alerted to the selfish schemes of those who would deprive them of much of their heritage. From the days of Theodore Roosevelt new Paul Reveres have been riding up and down the lanes and roads and highways of America warning against the designs of foes in our own household. Before it is too late, the attempts to exploit and mar the public lands, the property of every American, must be exposed and halted. Nature's masterpieces must be left untouched and unspoiled. The royal people who own these treasures must make it plain to covetous eyes that these crown jewels are not for sale. America needs prophets to thunder as Nehemiah did centuries ago to the land despoilers of his day, "Behold we are the servants of that large and fat land Jehovah's great goodness hath given our fathers." In bright contrast to the constant efforts of traitors to the land to chisel and ruin its glory so that its resources may be drained into their coffers, is the story unfolded in a recent book entitled "The Heritage of Every American." It is the story of what one great American, John D. Rockefeller, Jr., has done to stay the hand of the despoiler. His conservation activities have ranged from city parks to national parks, from Acadia, Maine, to the Virgin Islands, from the Hudson Valley with its mighty palisades to the towering redwoods of the West, from the Great Smokies to the Grand Tetons. He has helped to acquire for everyone some of the magnificent lands he has loved and he has recreated some of our most inspiring history. He has dedicated his wealth to you, as servants under God. But such a saviour of beauty as this great American with his keen sense of stewardship has in answering the question, Whose land is it?, suggested the third thing that there is to say:

IT BELONGS TO THE FUTURE.

It belongs to those who come after us. There is a striking sentence in the Old Testament, "The fathers have eaten sour grapes and the children's teeth have been set on edge." That is an unforgettable way of saying that what the fathers do today will affect their children and their children's children. If we are not vividly conscious of our role as trustees of the future, then for some tempting expediency we may adopt policies in the present that will rob the generations following of the birthright it was intended should be theirs. We have no right to pilfer and misappropriate the capital of those who will take over the land when we leave it. A half-century ago those in temporary authority in a certain western city, a growing metropolis, facing the need of water supply, did the easiest thing. They reached over into the Yosemite

National Park and constructed a dam in the Hetch Hetchy Valley. If future generations had been kept in mind arrangements outside the Park could have been devised. In the councils of that day one influential voice prophetically protested. He said, "What I am opposed to is the determination right now that the valley shall be flooded fifty years from now. I feel that the decision should properly be reserved for those who will live fifty years hence. We surely can trust that their decision would be a wiser one than any we can make now." The matter of damming the water of any valley, rich in power and scenic effects, ought always to take into consideration what is best in terms of a hundred or five hundred years from now. A very wise conservationist, with his eyes on binding mistakes of the past when the future decisions were made before the future had a voice, suggests that a three-year wait on most proposed development projects is not long compared to the eternity our descendants shall otherwise have to live with any mistakes we make out of premature commitments. At every conference when get-on-with-the-work advocates are clamoring for immediate action, with a bulldozer parked just outside the committee room, there ought to be brought in an empty chair to represent those who will have to live with today's decision when they arrive in the years to be. Thomas Jefferson declared that one generation cannot bind another—that each has the right to set its own course. That is true when policies and laws are involved. Bad laws can be revoked. But so far as some decisions affecting the land are concerned, what is written is written. What is done in one hour may utterly restrict the power of choice hundreds of years after the gavel resounds announcing today's vote. We are living now within the limits of the shortsightedness of yesterday. We represent those who will inherit the good earth a thousand years from now. The coming generations have a right to the things which delight us for our little day—Things of which we can rob them if we are prodigal, especially in our bumper-to-bumper existence, in our herded lives. We must shout from the housetops of our swarming cities that for us and for all the long future the vast parks and forests and the scenic cathedrals we call wilderness must be inviolate as we hold them in all their glory for those distant feet we hear coming along the future's broadening way.

Oh, land of lands—servant of all lands—whose is it? It is God's. It is ours. It belongs to those who come after us.

Our fathers in a wondrous age
 Ere yet the earth was small
 Insured to us a heritage
 And doubted not at all
 That we, the children of their heart
 Which then did beat so high
 In later time should play like part
 For our posterity.
 Dear bought and clear a thousand years
 Our fathers' title runs
 Make we likewise their sacrifice
 Defrauding not our sons.



Game Commission Photos by Cantner

Lake Brittle, a 77-acre impoundment near Warrenton, Virginia, is the first large body of water in the state to undergo a complete analysis. The concrete drain tower stands out against the dry, snow-covered lake bottom as fish biologists carry on their work.

DOWN THE DRAIN FOR BETTER FISHING

By D. E. CANTNER

Assistant Chief, Education Division, and Associate Editor, Virginia Wildlife

TO MANY people throughout Virginia, the draining of a large body of water in managing fish may seem a rather foolish thing. But during this scientific age, fish biologists and other scientific workers have become streamlined in their approach to the problems of biology. In order to completely analyze a fish population in impounded waters, the fishery workers have found that complete pond drainage will provide the answers.

In 1955, the Virginia Commission of Game and Inland Fisheries began a small pond investigation project with the help of funds provided by the Dingell-Johnson federal aid program. This money results from a federal excise tax collected on the sale of fishing tackle and is pooled in a central fund, handled by the U. S. Fish and Wildlife Service. The money is then redistributed to the states for research work in fish management. The amount allotted annually to each state is determined by the number of fishing licenses sold during the fiscal year.

With an ever increasing list of requests from landowners for information on managing small ponds, the fish division was faced with the problem of adequately handling these inquiries because of very few men work-

ing in the field. To better serve the pond owners, the biologists initiated a research program dealing with the draining and investigation of various small ponds, five acres and under. These impounded waters were located in the piedmont and coastal plain sections of the state and had unrelated terrain, soil types and other physical features. By applying various techniques of management to these waters, the biologists hoped to formulate a set of rules whereby a landowner could manage his pond without technical help from the under-staffed fish division.

One of the objectives in draining part of the ponds selected was to remove all the pan and forage species of fish under six inches in length. All rough species (carp, suckers, catfish, etc.), regardless of size, were also removed. The lake was to be refilled and restocked with the bass and bluegills held during the draining operation.

A second objective of the draining project was to secure data on the standing crop (number of pounds of fish per acre) present in the pond and the population composition (various species present and the number of



Fish coming through the drain pipe were caught in a wire holding cage, netted into tubs or retained in the tank on the left and then carried to the sorting tables on top of the dam.

pounds per acre each species contributed to the total poundage).

The biologists have long realized that in most unmanaged ponds there are very few fish of catchable size. This, of course, indicates that most of the bluegill present would fall into the shorter length classes (six inches and under). By removing the small size classes, the population would be shifted from numerous small fish to an abundance of catchable-sized fish, thereby providing better fishing success for the angler. Following the population shift, the ponds were slated to be redrained after two growing seasons. In this manner the fish present could be checked to see if sufficient growth was being maintained and to once more check on the standing crop and population composition.

At the time of writing only two of these have been re-drained and it appears that population manipulation has definitely made a change for the better.

From the information obtained, two rules seem to be applicable to the management of small ponds. First, the pond owner should definitely limit or refrain entirely from removing bass during the first two years in a newly stocked pond. On the other hand, bluegills should be heavily fished and as many as possible removed from the pond, regardless of size. Secondly, after the first two years all bass in the 12 to 15 inch size class should be returned to the pond. It was found that bass in this size class were the most vulnerable to hook and line fishing. Bass under 12 inches or over 15 inches in length can be safely removed in rather large quantities after the second year.

Since worthwhile results were obtained by manipulating fish populations in the small ponds, fish division personnel decided to apply the same type management to the larger ponds owned and operated by the Commission. The first lake to receive the drainage treatment was Lake Brittle, a 77-acre impoundment near Warrenton in Fauquier County. Work was begun in mid-October when a wire holding box was constructed at the end of the 36-inch drain below the dam. Upon completion of the

holding device, the valve was opened and the lake slowly dropped with the fish concentrating in the vicinity of the valve opening. Any fish that became caught in the drain line were collected and held in the wire holding cage.

During the first week in December the lake was sufficiently low to begin removing the fish. It was also during this same period that Mother Nature dumped 11 inches of snow in the Warrenton area and left drifts up to five feet in depth. Early morning temperatures dipped to the low 20's and the sun had little effect during the day. It was in this seemingly arctic weather that fish removal work was started on the lake.

Fish were collected in the drain outlet holding cage, transferred into wash tubs and then carried to the top of the dam. Large numbers of fish were retained in 3000-gallon, water-filled neoprene rubber tanks until they could be handled. After removing the fish from the tanks, they were placed on sorting tables and grouped according to species. They were further sorted into size classes and weighed so that data will be available on the pounds per acre of the various species present in the lake. All pan fish under six inches were removed as well as all rough species. The remaining fish were placed in fish trucks and transported to the Front Royal hatchery where they are to be held until the lake is refilled.

A further management technique which the division will apply is that of providing artificial brush shelters for the bluegill and crappie. Past experience has shown that fishing success is greater for these two species in the vicinity of submerged brush piles. The fish tend to congregate in schools around these shelters and thus become more vulnerable to hook and line fishing.

The third step in the management plans calls for the eradication of all fish remaining in the small streams leading to the lake. This step will prevent a rapid build-up of undesirable sucker and bullhead populations.

After the lake has been restocked with catchable-sized fish, a final phase of management will include the application of fertilizer to increase the fertility of the water.

(Continued on page 22)



After being grouped by species and then by size classes, the fish were weighed and again put into holding tanks where they awaited transportation to the Front Royal Hatchery.

How It Fared

West of the Blue Ridge

By JACK V. GWYNN
Game Research Biologist

ONCE again western Virginia deer herds proved the point that you can have your white-tails and eat them too! In spite of such difficulties as flu, rain, fog, snow, lack of a Thanksgiving holiday and increased mast, all of which lessened the kill, sportsmen of the counties west of the Blue Ridge were able to take over 10,782 deer during the six-day season this year.

Another way of looking at the harvest would be to visualize a "mountain" consisting of 550 tons of dressed meat. An approach which might be more appealing would be to count the annual return from our western deer herds. The value of this venison on the hunters' tables would be well over a half million dollars. If you figured the food, clothing, transportation, lodging, equipment and other costs involved, it would be evident that as a group the hunters paid well for their recreation.

In fact, Virginia's some 80,000 western deer hunters probably spent over four million dollars on their favorite sport in 1957. Just zeroing the rifles involved would cost over \$30,000.00! Thus no matter how you look at it the sport of hunting affects the economy and pocketbooks of a great many people. This is true in spite of the fact that most of the returns derived from the sport can not be measured by our dollar sign.

The Hunting Weather

In brief it can be said that the weather was not of the bluebird variety, at least during the all-important first two days and the last day of the hunt.

Opening day was characterized by moderate temperatures, rain and fog at the high elevations. The following day began with heavy winds and rain in the morning, clearing in most areas by noon and followed by good weather with decreasing temperatures. Wednesday and Thursday were generally cool, clear and windy with the lows falling below freezing where they remained for the rest of the season. The first day of hunter-choice activity, Friday, was generally cold and cloudy mixed with some rain or snow in local areas. Saturday brought a snow belt extending roughly from Roanoke to the northern border. Blizzard conditions existed in some of the northern areas and most of the southern counties were plagued with fog and rain on the final day.

All in all it was a wet season with the better days coming during the middle of the week. The wet weather no

doubt slowed down the activities of both deer and hunters, with its greatest influence being felt during the final antlerless day.

Season Changes and Hunting Effort

Of the 27 western counties at least partially open for some kind of white-tail hunting last fall, eleven of them had an increase of one day of hunter-choice hunting. One county, Smyth, had a one-day reduction in the hunter-choice season. Thus a total of 15 counties had a four-day buck—two-day hunter-choice season, eight counties had a five-day buck—one day hunter-choice season and four counties had a six-day season for antlered bucks only. There were five additional hunter-choice counties in 1957 over the total in 1956.

Hunting pressure (hunter effort) shifted somewhat from the 1956 season with the largest reductions being recorded by the decrease in damage stamp sales (required of all deer and bear hunters) in Bath and Smyth counties. In Smyth county there were 1100 less hunters, largely the result of the reduced hunter-choice season. In Bath County, however, there were 900 less hunters even though the season remained unchanged from 1956.

Total sales reported from 9 of the 12 counties that sell damage stamps indicate that the decrease of hunters in counties with the same season as in 1956 was nearly offset by the increase in hunters in counties having more lenient hunter-choice seasons. Therefore it is doubted that there was little more than a slight decrease in total hunter pressure over this western region, and apparently the counties that "lost" hunters did so because many hunted closer to home or in other counties having an equally lenient season.

An increase in hunters, determined by damage stamp sales, was reported in Craig, Washington, and Wise counties. Decreases in hunter pressures were reported in Grayson and Wythe counties. Bland and Highland counties remained little changed.

The Harvest

At the time of this report, the total deer harvest west of the Blue Ridge was 10,782 deer. By the time all kill cards are in the total decrease from the 1956 hunt will be about 634 deer. The total antlered take in these 27 western counties was 6,041 in 1956 and 5,903 in 1957, a

decrease of 138. Over three-fourths of the total decrease from 1956 then were antlerless deer. This was caused in part by the bad weather that existed during that final and important day of antlerless hunting. A possible solution to the weather's effect upon the antlerless harvest would be an increase in the hunter-choice days.

The antlered buck harvest in counties having hunter-choice seasons in 1956 and 1957 (20 in all) decreased by 279 individuals, although 262 of this decrease occurred in Shenandoah County. In Bath County the antlered buck kill increased over that of 1956 even though the total kill decreased. The percent of hunter success in Bath County was reduced only slightly, 20.8% in 1956 to 20.2% in 1957 even though the hunter pressure in Bath County was down from 7,306 in 1956 to 6,404 in 1957.

The minimum goal of equal numbers of antlered and antlerless deer was reached reasonably well in about half of the counties having a hunter-choice season. The other half did not fare as well and missed the minimum goal of equal numbers by some 1000 antlerless deer. In some areas hunters were reported taking antlerless deer during the "buck only" part of the season. For these reasons then the season is not considered a complete success.

Table I will show the breakdown of the harvest as to season type. In order to present a better picture of what the individual counties produced and how they compared with the 1956 season, Table II lists the harvest data by county.

The Future

As the result of our hunter-choice seasons there are less deer in some of our more heavily hunted areas. Those who recognize the effects of too many deer will agree that a reduction in these areas if accomplished in time will result in healthier range conditions and healthier deer,

TABLE 1—DEER HARVEST BY SEASON TYPE—WESTERN VIRGINIA COUNTIES—1957

Season type	Antlered	Antlerless	Total	Deer Range in Sq. Mi.	Antlered Deer Kill per Sq. Mi.	Total Kill per Sq. Mile
6 day buck	111		111	510	.22	.22
5 day buck, 1 day choice	810	530	1340	1330	.61	1.01
4 day buck, 2 day choice	4982	4349	9331	3940	1.26	2.36
Totals	5903	4879	10,782	5780	1.02	1.87

TABLE II—COMPARISON OF 1957 AND 1956 DEER HARVESTS—WESTERN COUNTIES ONLY

County	Deer Range in Sq. Miles	Antlered Kill 1957	Antlered Kill 1956	Antlerless Kill 1957	Antlerless Kill 1956	Total Kill 1957	Total Kill 1956	Total Kill Per Sq. Mi. 1957	Total Kill Per Sq. Mi. 1956
Alleghany	300	249	220	109	68	358	288	1.19	.96
Augusta	580	639	656	537	364	1176	1020	2.02	1.76
Bath	500	882	736	411	784	1293	1520	2.58	3.04
Bland	200	57	32			57	32	.28	.16
Botetourt	250	161	157	138	72	299	229	1.20	.92
Carroll	100	5	9	4	1	9	10	.09	.10
Clarke	70	39	25	23	10	62	35	.89	.50
Craig	275	262	244	181	152	443	396	1.63	1.44
Frederick	250	405	547	428	526	833	1073	3.33	4.30
Giles	120	185	182	200	183	385	365	3.21	3.04
Grayson	250	166	210	107	163	273	373	1.09	1.49
Highland	200	220	233	146	193	366	426	1.83	2.13
Lee	50	13	18	6		19	18	.38	.36
Page	160	210	173	198	156	408	329	2.54	2.06
Pulaski	60	4	2			4	2	.07	.03
Roanoke	60	18	11	3	7	21	18	.35	.30
Rockbridge	250	183	163	109	62	292	225	1.17	.90
Rockingham	325	475	526	347	370	822	896	2.53	2.76
Russell	50	5	5			5	5	.10	.10
Scott	130	145	96	71		216	96	1.68	.74
Shenandoah	450	860	1122	1314	1690	2174	2812	4.82	6.25
Smyth	300	216	221	126	282	342	503	1.14	1.68
Tazewell	200	45	22			45	22	.22	.11
Warren	150	194	210	205	175	399	385	2.66	2.56
Washington	200	97	91	38	65	135	156	.67	.78
Wise	150	112	65	135		247	65	1.65	.43
Wythe	150	56	65	43	32	99	117	.67	.78
Totals	5780	5903	6041	4879	5375	10,782	11,416	1.86	1.98

and is the best possible way to assure good hunting for an indefinite period.

In other areas, however, the reduction is only a winter reduction with the amazing productivity of the white-tail acting to replenish this temporary decrease through spring births. In a nutshell, deer management means holding our deer herds to the carrying capacities of the winter range each fall.

Barring heavy losses through disease or reduction in hunter numbers, our antlered harvest should be between 6-8000 next year. Yet, we have failed to take full advantage of the fact that there is at least an equal number of antlerless deer that can be harvested annually. Next year's harvest then should total at least 12,000 deer of both sexes.

Over the years, however, our deer range will gradually mature and lose its capacity to support the number of deer that it once did during its early stages following lumbering, fire or farm abandonment. Habitat improvement, timber operations and proper deer harvests may offset this decline in some areas. This reduced carrying capacity in future years will result in smaller total harvests over our western range.

Things You May Not Know

A female Norway rat, our common species, averages around five litters of young each year with 7 to 11 individuals in each litter.

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The range of the striped skunk includes the entire United States and parts of Canada and Mexico.

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Owls cannot move their eyes but their necks can rotate in a 270-degree arc giving them a wide range of vision.



Game Commission Photo by Kesteloo

This scene on the lawn of the New Kent Courthouse shows law enforcement personnel and the evidence which convicted eight hunters of violating the Virginia deer hunting laws.

The High Cost of Venison

THE Virginia Commission of Game and Inland Fisheries, by law, is "*vested with sole jurisdiction, power and authority to enforce or cause to be enforced all laws for the protection, propagation and preservation of game birds and game animals of this state. . .*"

The above quote, taken from the Game, Inland Fish and Dog Code of Virginia, charges the law enforcement division of the Commission with the responsibility of carrying out the laws set forth by the legislature to protect the wild game and fish of the state.

Enforcement personnel are constantly on the alert searching for both potential and confirmed game and fish law violators. During the past few years, minor infractions of the law in the New Kent area led wardens to believe that an organized group of violators was inflicting heavy losses on the local deer herd. In an attempt to break the organization, concentrated effort was aimed at the suspected area during the last year. Supervising wardens I. H. Vassar, of the Patrick Henry District, and R. S. Purks, of the George Washington District, coordinated the efforts of a dozen wardens and formulated a plan whereby the offenders would be brought to justice.

To collect the needed information and evidence for conviction, wardens Gerald Simmons and James E. Allen

were assigned to the area as hunters on December 19 through 21. During this period several illegal deer were purchased by the wardens for use as evidence during the trial. One of the wardens almost exposed himself when he did not shoot an illegal doe which came near his stand. He was severely "dressed down" by one of the members of the hunting party for not killing the animal.

Warrants were sworn out on the 21st of December after sufficient evidence had been obtained by the officers.

Results of the January 10 trial point up the fact that disobeying the law does not pay. Eight men were charged with violating the state's deer hunting regulations and were fined a total of \$805. Three of these men had to pay replacement costs of \$100 each.

Two other hunters, John Bond of Brandywine, Maryland, and Frank H. Warner of Falls Church, Virginia, were acquitted of the charges placed against them.

The specific fines and sentences were as follows:

A \$75 fine was levied against Frank L. Lavezzo of Washington for illegal possession of a deer and for destroying the identity of game before it was officially tagged.

Phillip F. Tippet of Cheltenham, Maryland, was fined

(Continued on page 22)

VIRGINIA WILDLIFE

CONSERVATIONGRAM

Commission Activities and Late Wildlife News . . . At A Glance

FISH DIVISION TO CONDUCT CLASSES. Robert Martin, assistant chief of the fish division of the Commission, has announced that his division will conduct a two-day course in the principles of fish management for the benefit of the Commission's game biologists. The purpose of the meeting is to exchange new ideas in fish management techniques and create closer cooperation between the two divisions of the Commission.

HINTS TO FISHERMEN. Beginning with the April issue of Virginia Wildlife, a series of four articles on fishing in Virginia will appear. The April issue will cover the Tidewater section of the Old Dominion, giving hints on where and how to fish. In addition to Tidewater, the Piedmont, valley and mountain areas of the northwest and the valley and mountain areas of the southwest will be covered in later issues. These articles will be accompanied by maps showing streams and lakes, species of fish found and other helpful information.

COMMISSION EMPLOYEE TO ATTEND EDITOR'S SHORT COURSE. Danny E. Cantner, assistant chief of the Commission's education division and associate editor of Virginia Wildlife, will attend a one week course for magazine editors at Oklahoma State University, Stillwater, Oklahoma.

The workshop runs from March 17 through 22 and will consist of lectures and laboratory work on magazine layout. Several discussions on editorial problems will also be held.

CONSERVATION STATE EXECUTIVE CHANGES. Albert M. Day, a past director of the U.S. Fish and Wildlife Service, returned to conservation work effective February 1, 1958. Day has a 38-year government service career to his credit and is now taking over as director of the Oregon State Fish Commission.

Morton J. Golden, Pennsylvania Game Commission employee for 29 years, was recently promoted to the position of executive director. The vacancy occurred upon the death of Dr. Logan J. Bennett, under whom Golden served as deputy director.

Death recently overtook J. Perry Egan, former executive director of The Utah Game Commission. Harold S. Crane is now acting director.

Albert E. Hyder resigned recently as director of the Tennessee Game and Fish Commission. The assistant director, Louis S. Clapper, was named acting director.

John M. Hall, past director of the Arizona Game and Fish Department, has accepted a position with the United States Forest Service and will serve as area biologist for National Forests in New Mexico. Robert J. Smith has been named acting director pending action by the Arizona Commission.

NEW OIL AND GAS LEASING REGULATIONS APPROVED BY SEATON. Secretary of the Interior Fred A. Seaton announced that he has signed a bill which will establish clear cut guidelines for oil and gas leasing on federal wildlife lands. Under the new regulations oil and gas leasing shall be permitted only upon clearance through the Department of the Interior.

The controversy on commercial exploitations of federal wildlife areas was brought about by an oil strike on the Kenai National Moose Range last year. Conservationists throughout the United States and Alaska became concerned over this important matter and focused public attention on the issue.

Secretary Seaton should receive a great amount of praise for the prompt action and wise handling he gave this matter.

MICE FORCE WATERFOWL TO MIGRATE. Strange and often unexplainable events frequently occur in nature. To the untrained eye these freak happenings could be interpreted in many ways but to a trained wildlife biologist, the real meaning is more apparent.

Last fall in the Klamath Basin on the Oregon-California boundary, large numbers of field mice consumed great quantities of food planted for waterfowl and forced the birds to migrate early. Despite attempts to poison the little rodents, the numbers are still increasing. Economic losses to farm crops have been estimated at five million dollars and may run even higher.

Not realizing the damage they were doing, many waterfowl shooters slaughtered large numbers of hawks and owls which had moved into the area seeking the mice for food. The main food of these birds is small rodents and they destroy large numbers of them each year.

Let's work together to

PROTECT OUR PUBLIC

Save Our Public Lands from



POLLUTION



EROSION



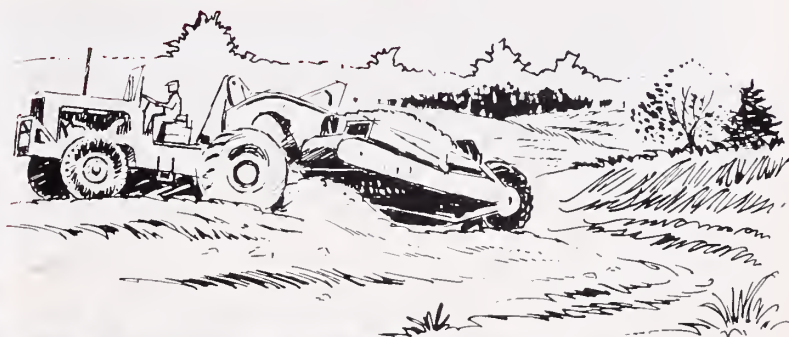
VIRGINIA WILDLIFE WEEK
NATIONAL WILDLIFE WEEK

PUBLIC LANDS

It is the responsibility of each citizen in Virginia to acquaint himself with the problems relating to our public lands. These areas are located throughout the United States, in national parks, national forests, other public domain lands and local and state wildlife lands.

The American people own approximately 460 million acres of these public lands, amounting to nearly three acres for each citizen. In order to keep these lands productive and their scenery unspoiled, we must see that our interests are protected. Plan now to make National Wildlife Week in Virginia a big success.

ENCROACHMENT ON RESERVES



FIRE



WEEK in conjunction with
WEEK, MARCH 16-22, 1958



Game Commission Photo by Kesteloo

Large recreation areas for public use are becoming scarce in many states. To insure future generations of public use areas in Virginia, the Commission of Game and Inland Fisheries has started a long-range program of land acquisition. These areas will be managed for game and fish and will provide other forms of outdoor recreation.

Commission Buys Gathright Tract

THE Commission signed a sales contract in January covering the purchase of the T. M. Gathright property, known as "Hickory Lodge," in Bath and Alleghany counties. This area of 18,357 acres will change its ownership as soon as an abstract of title is received and deed approved by the Attorney General. It is expected this will be done prior to April 1.

The property is being purchased under a Pittman-Robertson project in which three-fourths of the cost will be paid from Federal-Aid funds, collected as an excise tax on the sale of sporting arms and ammunition, and appropriated back to the states.

The tract has long been famous as a hunting area, and also contains 14 miles of the Jackson River, an excellent fishing stream. With the exception of a small refuge area, it is expected that the entire property will be open to the public for hunting and fishing under the same regulations applying to the adjoining national forest and privately owned lands.

Management plans have not yet been completed but are expected to be rather simple and confined to such things as keeping the special open areas free of encroaching trees and creating strategically located food plantings and clearings for deer, grouse, quail, turkey and other small game which is found in the area. While waterfowl does not abound in the western part of the state, the Gathright property attracts a goodly number of ducks and it is expected that their numbers can be increased with the creation of additional shallow impoundments. Beaver are quite abundant on the tract and have a number of ponds which are heavily utilized by ducks.

The purchase represents the second public hunting area acquired by the Commission within the last year. The first purchase consisted of 4,000 acres of marshland located near Saxis, in Accomack County, half of which was open to the public for waterfowl shooting during the past season. Other land purchases are being considered by the Game Commission so that future generations of hunters and fishermen will enjoy their sport.



Drawing by Wallace Hughes

An abandoned grown-up fencerow provides excellent food and cover for many species of wildlife and song birds. Clean fencerows offer no protection and little if any food.

Plan **NOW** for Wildlife

By C. H. SHAFFER and H. J. TUTTLE*

(Game Commission Photos)

THE time to be concerned about wildlife is NOW—not next January or February when game foods are short in supply. It's too late then. About all that people can do for wildlife when the going gets tough is to do a little "artificial feeding"—and this at best is none too good.

The big hope lies in nature doing the job, with man's help. This means planning a planting program in the spring to provide the type of food and cover that wildlife needs all year around.

We hear a lot of lip service today about conservation, about transferring needs into wants, about what we must do to have more game—ad infinitum. But here good intentions stop.

The time to *really* do something constructive for game—for all wildlife—is March and April, by making definite plans for wildlife plantings and then executing them.

Landowners, club members, suburbanites, garden club members, FFA, and FHA groups, Boy Scouts, all can do their share to provide food and cover for wildlife now.

Here are some practical aids that can be performed for certain species of wildlife.

*C. H. (Kit) Shaffer is a wildlife biologist in charge of the state's farm game program and is located in Lynchburg, Virginia. H. J. Tuttle is a district game biologist residing at Toano.

Rabbits

Cottontail rabbits eat almost anything vegetable. If rabbits can find plenty of food, such as plantain, clover, other legumes, or practically any greenery close to woodchuck dens and brush piles, and find hollow logs for cover, they will most likely reproduce abundantly. Improved pastures which are not grazed too heavily are a boon to the cottontail's diet, and provide excellent nesting cover. Planting turnip patches in odd corners is another good practice.

Brush piled over eroded gullies makes excellent cover for rabbits, as do hollow logs left lying in young growths of pine. Woodchuck dens, especially in the colder mountains, afford ideal cover for bunnies. Prunings from apple trees placed in a neat pile outside the orchard not only provide good cover for rabbits but also afford a favorite diet of apple bark.

Squirrels

Essentially, the needs of the squirrel differ little from other forms of wildlife. They must have plenty of food and cover. However, it is not possible to plant a den tree or an oak, hickory or gum that is already producing mast.



Thousands of acres of wildlife habitat have been destroyed by right-of-way installations. Many are sprayed regularly to kill existing vegetation, thus reducing wildlife food and cover.



Large numbers of Virginia farms are still losing valuable topsoil through erosion. These gullies are easily seen and should be corrected by planting a cover crop.



Field edges usually are not productive in raising farm crops. The moisture and light competition between forest species and farm crops usually results in a stunted and unproductive strip on field edges.

In many areas, both in mountains and swamps, the lack of either mast or dens may limit squirrel populations.

If the need is for den trees, substitute den boxes can be built and scattered throughout the woodland. Each box should be placed 15 to 30 feet up in selected trees.

Perhaps the best thing one can do for squirrels is to favor nut and fruit-bearing trees and shrubs in the woodland and leave den and food trees standing after cutting operations. Where there is ample sunlight, as in fence-rows and on wood lot edges, trees develop broad crowns and bear large crops of fruit.

One of the best squirrel management measures for the average landowner is the scattered planting and encouragement of nut-bearing trees on a long term basis.

Quail

Because it is apparent that the lack of a year-round adequate supply of food is generally the greatest single limiting factor to the bobwhite quail in Virginia, anything done to improve food conditions should aid in increasing its numbers.

Plantings should be made in conjunction with good cover, such as woodlands, shrub borders and hedgerows. The type of planting used is important. One of the best quail food plants known to Virginians is bicolor lespedeza, a plant which retains its seed throughout the critical winter months. Korean lespedeza is also excellent. Sericea lespedeza offers good cover for both quail and rabbits.

Bicolor and sericea lespedeza seed, as well as special quail food seed mixture, is made available free of charge early each spring to farmers, landowners, clubs and organizations by the Game Commission. All that is asked in return is that the seeds be planted and guarded against fire and grazing.

When odd corners of the land include an old orchard with its decrepit apple trees, the felling of one tree and the planting of wild grapes or some other usable vine beneath the spreading top will result in a "living brush-pile," which is hard to beat as cover for the bobwhite. It is fine for other small wildlife, too.

Waterfowl

Just as with furbearers, there is no greater attraction for waterfowl than plenty of unpolluted water. Improvements for waterfowl can be made along the same lines as those for furbearers. In many cases, after a farm pond is completed, waterfowl food plants come in naturally.

The needs of marsh and pond-inhabiting birds are much like those of the muskrat. The biggest problem is to keep fires out of the marsh and maintain constant water levels. Where marshes tend to close in solidly with vegetation, muskrats may help to keep small waterholes open. These openings are spotted by the ducks and are readily used.

Probably one of the most practical things that can be done for waterfowl in Virginia by the individual is the building and putting out of wood duck nesting boxes.

The decline of the beautiful wood duck during the past 10 or 15 years has been attributed much to the cut-

ting of its den trees along marshes and streams. To overcome this handicap of our only tree-nesting duck, nesting boxes can be built and placed in trees along streams and in swamps and marshes having a lack of natural dens. These boxes should be placed from 6 to 20 feet from the ground or preferably from the water level. Further suggestions for the building of these nesting boxes can be obtained from the Commission offices in Richmond.

Songbirds

It is safe to say that anything done to improve living conditions for game will substantially improve conditions for songbirds. Food and cover plantings for quail and rabbits will most certainly be utilized by songbirds. Even the creation of new waters and the planting of fruit bearing shrubs for squirrels and raccoons will benefit birds in general. Birds are attracted to water areas, especially clean waters. And birds, like game, find winter a critical time of the year for food. Something that cannot be done practically for game on a large scale, but that is widely practiced for birds, is artificial feeding during critical periods. This is because songbirds can be fed so easily around the home: all that is needed is a little interest, a little help. Some nutritious foods recommended in this type of feeding are suet, hemp, millet, cracked corn, chaff, chick feed, canary seed, and crumbs and other foods from the table.

Conclusions

Creating better conditions for wildlife does not mean doing a lot of extra "peculiar" things. Yet there are many specific, practical things which should be done. Some of these important things should be done anyway, purely for their agricultural value.

Much has been said though the pages of this magazine about wildlife and its relation to agriculture. If compiled, it would fill a volume in itself. But, simply condensed, it would merely point out that wildlife is a by-product of the land and that the management of both goes hand in hand. This cannot be denied, and it will be necessary to keep pounding this fact home for a much longer time before there is an awakening of all who are concerned. The man on the land is the custodian of our wildlife, but he alone cannot be burdened with the full responsibility of its welfare. Every sportsman and other individual interested in wildlife has an important part to play and a job to do. Cooperation is the only way. The farmer, the sportsman, the game warden, the game technician, the county agent, the soil conservationist and others must combine their efforts. Then, and only then, will we make strides toward sound wildlife management.

It cannot be denied that plantings made especially for game require additional work by the farmer and landowner. The friend who hunts could assist in this operation, thereby helping the farmer and improving the hunting when the season comes around. The question may arise as to whether it will pay to make these plantings. Economically, the answer might be no, but

(Continued on page 22)



In many counties large areas of power line property have been planted with bicolor and sericea lespedeza. These food plants adjacent to wooded areas provide ideal conditions for game animals and birds.



Eroded areas, such as this small draw, can be planted to lespedeza or game food mixture and will eliminate further loss of topsoil as well as produce food and cover.



Field edges can be made productive for wildlife by planting a strip of bicolor lespedeza and a row or two of game food plants.



Game Commission Photo by Kesteloo

Governor J. Lindsay Almond, Jr., in his address to the members and guests of the winter meeting of the Interstate Commission on the Potomac River Basin, assured the group that he would support them in their efforts to stop pollution and promote wise use of water in the Potomac River Basin states.

WATER NEEDS STRESSED

Governor Almond points out the importance of water and offers support in conserving this vital resource

Governor J. Lindsay Almond, Jr., in one of his first public appearances since being elected, recently praised the work of the Interstate Commission on the Potomac River Basin. He assured the Commission and the many guests during their winter meeting held January 22-23 at Hotel Richmond, Richmond, Virginia that Virginia would "hold out the right hand of cooperation" to the Potomac River Basin states who are trying to prevent pollution and promote the wise use of streams that flow through them. The effort of the commission is a "great, salutary and humanitarian undertaking."

Following the inspiring address by Governor Almond, Chairman of the Commission Senator John A. K. Donovan presented the members of a panel which discussed water resources development in the various member states. E. W. Mundie of the Agricultural Extension Service, V.P.I., was the moderator for the discussion. Delegate John H. Daniel, Chairman of the Virginia Advisory Legislative Council, presented the achievements of the Old Dominion in water resource development and pollution abatement.

Following the panel discussion a luncheon was held with Delegate Daniel addressing the group. The after-

noon session consisted of reports by the land, water, industrial, recreation and wildlife committees.

Parke C. Brinkley, Commissioner of Agriculture, was master of ceremonies for the Wednesday night banquet and introduced Lloyd Partain, manager of trade and industrial relations for the Curtis Publishing Company of Philadelphia, Pennsylvania.

Partain predicted a phenomenal increase in water usage during the coming years. Realizing the importance of pure water to both industry and domestic users, he stated that surface storage of both upstream and downstream water during periods of excess flow is essential and in the future it may be necessary to import water by pipeline from areas of abundance to areas that are deficient.

He pointed out that as a result of heavy rainfall in the Potomac River Basin states, the area is in a better situation than many sections of the nation.

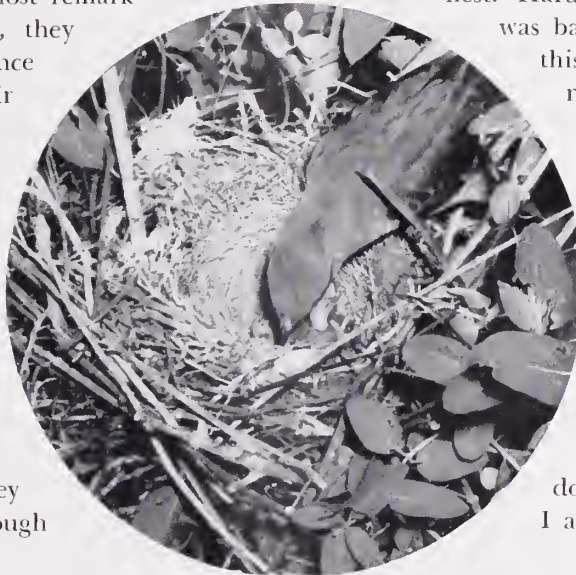
The meeting was concluded the following morning with a panel discussion on water pollution control in the basin states and the District of Columbia, followed by findings and recommendations of the standing committees.

Our Friendly Mockers

By H. H. SMITH, SR.*

SOME of our birds appear much more friendly than others. Mockingbirds, robins, catbirds, bluebirds, brown thrashers, and thrushes are among the friendliest. Perhaps the tamest are mockingbirds and robins. The English people are fond of their nightingales, but the early settlers at Jamestown took a great liking to our mockingbirds. Beverly's *History of Virginia*, published in 1705, speaks thus of the species: "They love society so well, that whenever they see mankind they will perch upon a twig very near him, and sing the sweetest wild airs in the world. But what is most remarkable in these melodious animals, they will frequently fly at small distance before a traveler, warbling out their notes several miles on end, and by their music make a man forget the fatigue of his journey."

That was written 250 years ago. The "mock birds," as the early settlers called them, are still friendly and musical. A few years ago I had an unusually interesting experience with "mockers." A pair nested in a nearby yard and I fed them raisins as they came into my yard. They are crazy about raisins, and although grapes are one of their favorite foods, raisins take their place when grapes are not in season. The birds would come to my window sill and eat the raisins while I sat at my desk by the window, hardly a foot from them. When young birds appeared in the nest, the fun really began. It was a cold, rainy spell in May and, food for their young being hard to find, they were willing to take risks to get raisins for their babies.



Game Commission Photo by Kesteloo

The mockingbird is one of the most familiar species in Virginia's avian fauna.

My aim now was to induce them to take a raisin from my hand. At first they would feed from one end of the window sill as my hand rested on the other end of the sill. By degrees I coaxed them to come nearer, until they would take a raisin one inch from my hand. Then I filled my hand with raisins and refused to feed them unless they fed from my hand. The bolder one, probably the mother bird, raised her wings, muttered something—perhaps "Now this is living dangerously"—quickly flipped a raisin from my hand, and went off to her nest. Hardly a minute had passed before she

was back for more raisins. She repeated this many times but always cautiously, raising her wings and muttering something. Sometimes she flipped the raisin so hurriedly that she dropped it, but I had finally succeeded in getting a wild bird to eat from my hand.

Still, I wasn't satisfied; I wanted them to "come into my parlor." Placing raisins on a chair about two feet from an open window, I waited. They didn't come for a while, so I lay down to take a nap. A half hour later I awoke and, as I moved, the mother mockingbird flew around the room trying to get out. The experience frightened her, and I was afraid she would not come back to feed at the window. But back she came, as

friendly as ever.

This was the third season the "mockers" fed at the tray on my window sill. They stayed during the cold winter weather and enjoyed the handout of raisins when other food was hard to find.

*Reverend Smith is a retired Methodist minister.

Mockingbird Courtship

When thoughts of love fill the fresh spring air, mockingbirds display a courtship which is interesting to see. The first step is for the male to sing from a high perch and display his white wing patches. Then both birds go through a formal dance on the ground with heads and tails held high while they face each other. They then solemnly hop from side to side, or in circles for long periods of time.

DOWN THE DRAIN (Continued from page 9)

With the fertility increased, microscopic plants and animals will thrive and more food will be made available to the fish. The increased food, in turn, will produce more pounds of harvestable fish. In small pond experiments, fertilization has more than doubled the pounds of fish per acre.

A second lake slated for the same treatment as Lake Brittle is Lake Albemarle, a 45-acre impoundment near Charlottesville, in Albemarle County. This is another of the Commission-built lakes, but it is controlled by the Lake Albemarle Commission. During the past five years, fish technicians have tried various management techniques on this lake, but all have failed to restore the fish population to a desirable status. Too many small fish plus undesirable species, chiefly bullheads, in large numbers indicates that the lake must be drained for rebalancing of the population. Work on this body of water will begin soon after Brittle is completed. Anglers in the Charlottesville area can expect better fishing a year or so after the lake is refilled.

After a period of four years, the fish in both Lake Brittle and Lake Albemarle will again go "down the drain" and a careful analysis will be made of the changes that have occurred. From the data obtained, biologists will be in a position to further refine the management techniques and perhaps apply these methods to other ponds and lakes throughout Virginia. It is through this type of basic research that anglers in the Old Dominion will enjoy better fishing in future years.

COST OF VENISON (Continued from page 12)

\$50 for the killing of an illegal male deer plus a \$100 fine for replacement costs.

Robert M. Dickerson of Vienna, Virginia, was fined \$100 for killing a doe out of season, \$25 for destroying the identity of the animal before it was officially tagged and \$100 for replacement costs.

The remaining five men, all Negro residents of New Kent County, were found guilty of various charges as follows:

Reginald Patterson—\$100 for selling a deer, \$50 for killing a doe and a 30-day jail sentence.

Joseph Street—\$25 for possessing an illegal deer, \$25 for offering to sell deer and \$10 for hunting without a license.

Dorsey Tyler—\$100 for killing a doe, \$10 for offering to sell deer, \$10 for failing to tag game and \$100 for replacement costs.

Floyd T. Patterson—\$100 for selling deer, \$25 for destroying game without tagging, \$50 for possessing a doe and a 30-day jail sentence.

James Cole—\$50 and costs for possessing an illegal deer.

This is only one example of game violators being brought to justice in Virginia. Multiply this incident by the number of counties in the state and a general idea

will be conceived of the large amount of illegal game killed in the Old Dominion each year.

The wildlife of Virginia belongs to the state and is entrusted to the state for management and protection. One or two wardens in a county cannot possibly patrol the area thoroughly to prevent all game and fish law violations. It is the duty of every individual citizen in Virginia to report infractions of the law in their area. It's through this type of public cooperation that violators will be apprehended and brought to trial. A game violator is a thief, stealing from the honest sportsman. His apprehension, punishment and rehabilitation are essential if we are to have a society where conservation is a way of life.

PLAN NOW FOR WILDLIFE (Continued from page 19)

if the esthetic and recreational values are considered, the answer would probably be in the affirmative. If properly planned, plantings are certain to improve the farm for game, often increasing game population.

The wise landowner will not graze his woodlots, marshes and streambanks. He will refrain from burning fencerows, pastures and lowlands. By avoiding these practices he will help to assure a continuous yield of woodland products. He will help conserve soil fertility, preserve fence wire and posts, and increase the fur and game crop by encouraging all wildlife about his premises.

Sportsmen's organizations can sponsor habitat restoration projects for their particular areas, and with little cost. Planting materials for such programs are available through the game technician, the game warden, and the soil conservation district personnel. Assistance in planning and organizing is also obtainable through these sources. In most cases the farmer will be ready to cooperate. He has the equipment and the land, and a helping hand in getting a planting project started will be a big incentive to get it done. Why not contact your local warden or game technician and get a project lined up for this planting season?

Carrying Minnows

To those fishermen who rely a great deal on live minnows for their fishing success, the following tip may prove of help.

Little known to many anglers is the secret of transporting minnows in airtight containers. Any container with a tight-fitting lid will serve the purpose for periods up to 24 hours. A milk can with a snug-fitting closure makes an excellent container for large numbers of bait fish. One or two-gallon, large-mouthed glass jars are ideal for carrying smaller numbers.

Fill the container with fresh water, drop in the minnows and then screw the lid on tightly. Keep the container in a cool location until the minnows are used. After opening the container for bait, refill with fresh water and again cap tightly.

By following these simple rules, the bait will usually remain lively for 16 to 24 hours.



Trespassing Can Be Dangerous

Forest Hanks, game warden of Alleghany County, reports a rare encounter of two bear in the Dolly Ann Hollow area.

Hunters in that area during the last days of the general hunting season reported seeing a dead bear on the trail leading up Iron Mountain. Upon investigating, Hanks estimated the bear to weigh about 375 pounds and in good health prior to death. Examination revealed a deep gash in the face near the right eye and deep indentations in the head apparently caused by large teeth.

A close examination of the surrounding area revealed that a struggle had taken place, probably with another bear. The dead animal is believed to have tried to enter the den of another bear hibernating in the area. Apparently, the sleeping bear was awakened from his deep slumber and decided to punish the intruder.

New Biologist

Robert H. Giles, Jr., a native of Lynchburg, Virginia, recently joined the Virginia Game Commission as a wildlife biologist.

Giles has been active in conservation-education in the past and was awarded a national medal and a college scholarship for his conservation activities with the boy scouts. He has taught nature and woodcraft at summer camps in both Virginia and Connecticut and worked with the U. S. Forest Service in Oregon.

He was granted a Bachelor of Science degree in forestry from VPI in June 1955 and while a student was president of the Corps of Cadets and was Campus Man of The Year.

With a fellowship from the Wildlife Management Institute, Giles continued his education at VPI in the Virginia Cooperative Wildlife Re-

search Unit. His master's degree thesis was entitled "The Conservation Knowledge of Virginia School Pupils." After receiving his degree in June, 1957, he entered the Infantry School at Ft. Benning, Georgia, as a second lieutenant.

Giles will make his residence in Covington and his work will be directed towards wildlife management activities on the James River and Pedlar districts of the George Washington National Forest.

Awards Given In Food Patch Contest

During the past few years the Culpeper County Game and Fish Protective Association has sponsored a wildlife seed patch contest in the Culpeper High School through the local chapter of the Future Farmers of America.



Howard Sheldon, game biologist of Culpeper, Virginia, presents a prize to Thomas Lane, a member of the Culpeper chapter of the Future Farmers of America, for his participation in a wildlife food patch contest.

The winners and prizes in the 1957 contest were Carey Brown (shotgun), Thomas Lane (rifle), Floyd Aylor (hunting jacket), Jack Kennedy, John Coats and Lawrence Bennett (hunting caps).

By sponsoring the food patches, the Association feels that participating F.F.A. members have become more aware of the importance of food and cover to wild animals and birds. A statewide planting program of this type would certainly improve food

and cover conditions for our wildlife populations and in turn provide increased recreation for our sportsmen.

Rare Hare

J. W. Engle, Jr., district game biologist from Staunton, recently reported the possibility of the snowshoe or varying hare being in Highland County.

This species is believed to have once occurred in the mountainous sections of the state at higher elevations, but is now almost extinct except in Highland County.

The habitat of this animal is restricted to the spruce and fir type of forest vegetation. Since it is so rare in Virginia, all persons are urged to refrain from molesting it so that the population can increase.

Information on the occurrence of the snowshoe would be appreciated by the Commission.

Plant More Trees

During February of 1955, former Governor Stanley appointed a committee to encourage Virginia landowners to plant more trees.

Over the three-year period following the organization of this program, a goal of 75 million was established.

With the third and final year now coming to a close, it appears that Virginia will plant in the neighborhood of 95-100 million trees, instead of the anticipated 75 million.

The "Plant More Trees" committee is extremely proud of the results of their efforts and plan to hold a special Arbor Day event on the Capitol grounds in Richmond, March 14, 1958. On the same date, the committee urges school principals to arrange a similar Arbor Day program in their schools. A suggested outline for this special day is being mailed to the school principals throughout Virginia.



Research On Deer In Southeast

In order to better manage the deer herds in the Southeast, 11 states last summer joined to form the Cooperative Deer Disease Study, which is headquartered at the University of Georgia.

Often in overpopulated deer ranges, large numbers of animals will die. These population reductions are commonly referred to as "die-offs."

Virginia, along with ten other states in this region, is helping to finance the research work being conducted. The bulk of the work at this time is aimed at the collection and analysis of blood samples of the white tail. In this analysis work, investigators are searching for traces of two known killers of unborn animals — leptospirosis and brucellosis. To date these diseases have not been found in this area.

Future work will include deer nutrition studies and parasitological and toxicological investigations. Information derived from this project should provide better methods of deer management in the Southeast.

Dr. Wilson Retires at VPI

Dr. Irl Donaker Wilson, better known to his students and staff as "I. D.," retired Jan. 31, 1958 as head of the biology department at Virginia Polytechnic Institute after nearly 35 years of service.

A native of Rockwell City, Iowa, Dr. Wilson received a degree in veterinary medicine from Iowa State in 1914 and the M.S. degree from Penn State in 1918. He returned to Iowa State and received his Ph.D. in 1930.

Two years were spent as a practic-

ing veterinarian in Blue Earth, Minnesota during 1914 to 1916. He then became an instructor and later a professor of animal husbandry and veterinary science at Penn State from 1916 to 1923. His position as head of biology department at VPI was accepted in 1923.

During 1938-39 Dr. Wilson was a member of the Alaska Reindeer Survey and Appraisal Commission. In 1949 an appointment by the Rockefeller Foundation gave him an opportunity to study education for veterinary medicine in Mexico, Central and South America. He



Dr. I. D. Wilson, former head of the biology department at V.P.I., displays the smile that has won him many friends not only in Virginia but nationwide. Dr. Wilson recently retired from V.P.I. to accept a position with the International Cooperation Administration in Bareilly, India. His outstanding personality and wisdom in Virginia education circles will be greatly missed.

In addition to the above assignments, Dr. Wilson has served on several state commissions dealing with veterinary medicine and wildlife and as a member of the Virginia Resource-Use Education Council.

Upon retiring from VPI, "I. D." will accept a two-year contract with the International Cooperation Administration to act as a consultant to universities in India. While supervising a program of research and graduate

training at the Indian Veterinary Research Institute and other universities, Dr. and Mrs. Wilson will make their headquarters in Bareilly, India.

Citation to Dr. Edward Kozicky

Dr. Edward L. Kozicky, director of conservation for Olin Mathieson Chemical Corporation, has been awarded a citation for "meritorious service" in recognition of his work in wildlife research by the Department of Interior. Fred A. Seaton, Secretary of the Interior, made the presentation. Prior to going with Olin Mathieson in 1956, Kozicky had been with the U. S. Fish and Wildlife Service and was leader of the Iowa Cooperative Wildlife Research Unit at Ames for eight years.

Basic Research Important to United States

Colonel Benjamin Blasingame, head of the Air Force ICBM Titan project, recently stated that: "The greatest threat to this country—economically and militarily—is lack of fundamental research."

Basic research is that type of investigation which will unlock new secrets of nature and her strange ways. To date, most of the investigative progress in our country had been along the line of applied research—reworking old facts and ideas into new products or inventions.

The field of wildlife and fish conservation would certainly stand to profit from the facts obtained in basic research programs. With hunting and fishing contributing billions of dollars to our economy each year, new methods of management are essential.

Signs of the Times

The Dutch Minister of Health, in an address to Parliament, recently related that deformed frogs had been found in a drainage ditch used for waste disposal of radioactive materials. Many of these animals showed excessive limbs with certain individuals having as many as 20 legs.

This spotlights the importance of adequate facilities for radioactive effluence. Realizing the possible dangers involved in disposing of this material, the International Association of Game, Fish and Conservation Commissioners passed a resolution during its last convention which recommended "that radioactive wastes be disposed of in appropriate underground depositories."

New Wildlife Stamp

The Post Office Department has announced that a new series of wildlife stamps has been issued. The initial printing of one hundred million of these stamps will carry a three-color reproduction of a female whooping crane bending over two young cranes with a male standing nearby.

This stamp is the fourth of a series devoted to wildlife. Since there are very few whoopers left in the world, this stamp is a fine tribute to a struggling species.

Contribution to Boating Safety

The Outdoor Boating Club of America has announced the publication of a 1958 OBC Standards Manual. This 48-page illustrated guide includes industry procedures for the design and manufacture of boats, motors and boat trailers, as well as suggested outboard fire-protection measures.

Executive director Guy W. Hughes remarked, "It is our hopes that the guide will help outboard manufacturers to develop better and more universally accepted products, but more than that, that it will result in products which will merit increased public trust."

Copies of this manual can be obtained at a nominal charge from OCB,

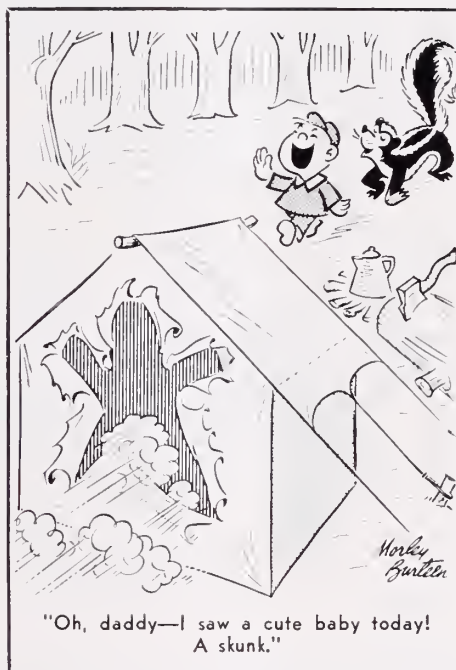
307 North Michigan Avenue, Chicago 1, Illinois.

Fashion Demands and Trapping

A report from the U. S. Fish and Wildlife Service indicates that the American woman still rules the fur-trapping industry in this country.

The current fur fashions do not include many of the long-haired furs. A great amount of effort has been made to revive the demand for these neglected furs and the program is meeting with some success.

During the 1955-56 trapping season, muskrat again led the field. More than 5½ million of these furbearers were taken because their pelts are acceptable to the buyers of fur garments.



New Shrew Found At Mountain Lake

Prior to 1956 there was no record of the gray long-tailed shrew (*Sorex dispar*) occurring in Virginia. Handley and Patton in their book *Wild Mammals of Virginia*, 1947, mention that typical habitat for this animal occurs in Virginia and indicated that collectors should look above 2000 feet elevation.

After several attempts, Dr. Harry L. Holloway of the Biology Department,

Roanoke College, Salem, Virginia, succeeded in trapping 12 specimens of *Sorex dispar* at Bear Cliff, Mountain Lake, Giles County, elevation 4000 feet. Positive identification was made by Dr. William H. Burt of the Museum of Zoology, University of Michigan.

The specimens were taken in common snap traps baited with peanut butter and oatmeal.

Straight Shooting Dog

Each hunting season brings new and often tragic accidents to our attention. One that was rather rare occurred in Pennsylvania during the past year.

Two parties of hunters happened to meet on a hunting area and their rabbit dogs became engaged in a fight. The owner of one beagle placed his gun on the ground while trying to separate the two canines. During the intervening struggle his hound accidentally (we hope!) jumped on the trigger of the gun, discharged it and killed the other dog.

The modern sportsman has to be watchful for careless hunters in today's woods. It appears now that he will have to keep an eye open for gun-sliding hounds, also.

Ant Control Program May Harm Wildlife

The Department of Agriculture recently authorized a 2.4 million program for combating the fire ant in the southeast. The first fire ant outbreak was reported in Mobile, Alabama, in the early '20's, and since then has spread into ten states.

Treatment of extensive areas with dieldrin and heptachlor, at a rate of two pounds per acre, has been planned. Biologists are extremely concerned because applications of these compounds at a rate of ½ pound per acre have been fatal to mammals, fish and small birds.

It is hoped that the Department of Agriculture will carefully consider its control program before large scale applications are made.

Wildlife Questions and Answers

Edited by Dan E. Cantner

Ques.: A neighbor recently informed me that being a landowner in Virginia entitled a person to hunt on his property without a big game stamp or a state license. Is this true?

Ans.: You are not required to have a license when hunting on your own property. However, if you are over 16 years of age, you must have a federal duck stamp to lawfully shoot migratory waterfowl.

A deer killed on your property must be tagged with an official big game tag and on the back must be written the word "landowner."

Ques.: My father and I own a rather extensive area in Bath Country and use it primarily for deer hunting. What would be the best plant to put in the cleared areas for deer using the land?

Ans.: Small areas can be planted in low annual plants such as buckwheat, but the best practice is to establish a permanent sod with clover, blue grass or orchard grass. Deer make extensive use of clearings of this type.

Ques.: I have always heard that turkey vultures spread hog cholera during an outbreak of this disease. Is this true?

Ans.: No, it is not. Research has shown that upon passing through the vulture's system, the germ which spreads hog cholera is rendered incapable of future infections.

Ques.: If a boat is going to be kept in salt water, is it necessary to buy a special paint for the bottom?

Ans.: Yes. Special paints for use in ocean water contain mercury, copper or cupreous oxide, which dissolve upon contact with the salt water. This dissolving action poisons the water on the surface of the boat bottom and marine organisms will not attach themselves.

Ques.: Do any of the predaceous animals utilize the skunk as food?

Ans.: Occasionally a skunk is taken for food by one of our four-footed predators if they are extremely hungry. With a normal food supply, other food is usually taken in preference to the skunk.

The great horned owl is one exception. In some sections the skunk is a staple item on this owl's menu, and the odor of a skunk can often be detected on these birds.

Ques.: What does the word "cycle" mean in relation to game management?

Ans.: This word refers to population changes in a wildlife species. A group of animals may have a high population for several years and then suddenly drop in number to a few individuals. These cycles are found in rodents and their predators and some of the gallinaceous birds such as grouse.



Ques.: Does the weasel actually suck blood from its victims?

Ans.: Although many people believe this to be true, it is not. Quite often the weasel will kill its prey by a bite at the base of the skull so as to break the backbone. This gives the false impression of blood sucking.

Ques.: Is the ringneck pheasant a native of the United States?

Ans.: No. This exotic bird was transplanted from the Orient in 1881. In some states it is now an established game bird with great appeal to sportsmen.

Ques.: Why is a camel able to go for long periods of time without water?

Ans.: A camel's stomach is made of numerous small cells which can be closed by muscular action. Water can be stored in these structures and utilized when needed.

Ques.: Is water an important item to the cottontail rabbit?

Ans.: Water is important to any animal for normal living. However, many animals and birds do not need water in the free state (in streams or pools) for survival. The rabbit is this type individual and obtains its water from the succulent vegetation it eats.

Ques.: What does the term "sand kill" mean?

Ans.: When heavy ground winds blow along a sandy beach, large amounts of sand become suspended in the choppy water. In their breathing process, fish draw water through their gills and the oxygen it contains is transferred into the blood stream. Suspended sand particles tend to clog the gills and adequate oxygen cannot be derived from the water. This results in the fish dying from suffocation.

Ques.: Is it possible for a landowner to trap raccoon on his property after the season has closed?

Ans.: Yes, provided the landowner can produce evidence that the raccoons are damaging his crops. The local county warden, upon viewing the damage, will issue a permit for trapping of the raccoons if the damage is of sufficient magnitude to warrant removal of the animals.

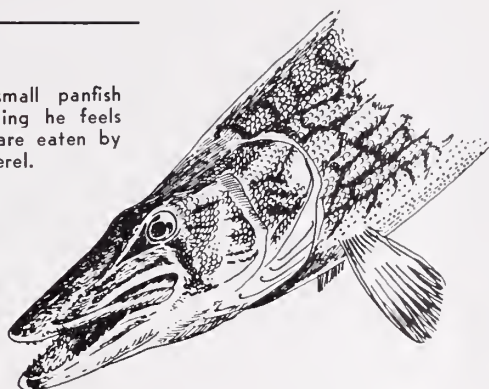
Ques.: Is it legal to use a blind while turkey hunting?

Ans.: A blind is perfectly legal in the pursuit of wild turkeys provided that the blind is not located in a baited area.

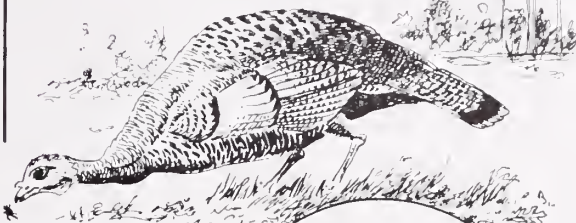
Ques.: Do turkeys spend the night on the ground in the same manner as our bobwhite quail?

Ans.: No. Turkeys roost in trees. They usually select some evergreen species, such as pine, and spend the night high above the ground. They leave the roosting tree at daybreak and begin feeding almost immediately.

Bluegills, other small panfish and almost anything he feels he can consume are eaten by the pickerel.



The wild turkey eats whatever the season may offer—grass, seeds, acorns, berries and insects.



Mr. 'coon usually has his snack of crayfish, frogs or grains after dark.



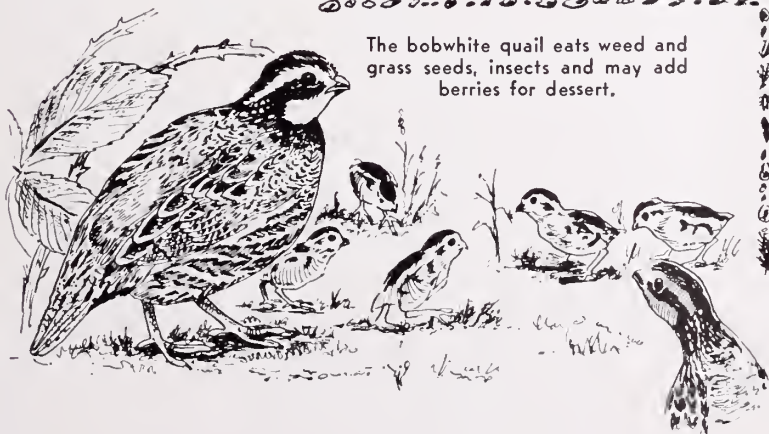
D. RAVEY

WILDLIFE FOODS



Although the cottontail dines on grasses and other succulent vegetation, he often turns to woody plants for their bark.

The bobwhite quail eats weed and grass seeds, insects and may add berries for dessert.



Bluegills may devour adult insects on the water surface, but more often they feed on insect larvae. Small fish are also included in their diet.

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